REMARKS

Claims 1 and 5-7 have been canceled without prejudice to, or disclaimer of, Applicants' rights to prosecute the subject matter thereof in an appropriate divisional application; claim 4 has been amended to incorporate the essential features of claim 1, and claim 8 has been amended to depend from claim 4. Claims 2 and 3 were canceled previously. Claims 4 and 8-11 are presented for further examination.

The rejection of claims 1 and 4-11 under 35 U.S.C. § 112, first paragraph, for allegedly containing new matter, and the indefiniteness rejection of claims 1 and 4-11 under 35 U.S.C. § 112, second paragraph, are respectfully traversed.

The invention relates to a homogeneous, boron-doped alkaline earth peroxide. The claimed boron-doped peroxide is made by a process wherein aqueous solutions are reacted and then dried to obtain a solid product wherein the constituents are dispersed in each other on a molecular level.

Although the exact phrase "on a molecular level" may not be found in the specification, Applicants submit that the on a molecular level limitation is an inherent and necessary result of the process as claimed, and thus does not constitute new matter. *In re Reynolds*, 443 F.2d 384, 170 USPQ 94 (CCPA 1971); *In re Smythe*, 480 F.2d 1376, 178 USPQ 279 (CCPA 1973). Moreover, a skilled artisan would understand that a process that comprises reacting an aqueous solution or suspension of an alkaline earth peroxide and hydrogen peroxide with a solution of a boron-containing compound would necessarily result in the boron being distributed in the peroxide on a molecular level. See also MPEP § 2163.07(a).

Because the molecular level disbursement of constituents is an unavoidable and inherent property of the claimed mixed peroxide, and because such a property would be understood by persons of ordinary skill to be an inherent and necessary result of the claimed process, the express recitation of this result in the claim does not constitute new matter. Reconsideration and withdrawal of the rejection are therefore respectfully requested.

Furthermore, the limitation of boron being "homogeneously distributed within the...peroxide on a molecular level" is readly understandable to a person skilled in the art and is not indefinite. It is settled law that a claim term is not indefinite as a matter of law if the meaning of the claim term is discernible. *Bancorp Services, L.L.C. v. Hartford Life Ins. Co.*, 359 F.3d 1367, 1372, 69 USPQ2d 1996, 1999-2000 (Fed. Cir. 2004).

As disclosed in the specification, the claimed process results in the boron component being virtually ideally and homogeneously distributed in a finely-divided product, and segregation of the boron and calcium peroxide components are precluded during subsequent use (See page 5, lines 8-13). Also, as noted above, one skilled in the art would understand that the claimed solution-based process results in a doped peroxide product having boron distributed in the peroxide on a molecular level. A person of skill in the art can readily understand that the phrase "on a molecular level" means that individual molecules of boron compound are dispersed among individual molecules of calcium and magnesium peroxide as will necessarily and inherently occur when aqueous solutions of the reactants are reacted with each other as claimed, as opposed to clumps of boron compound being dispersed among particles of calcium and magnesium peroxide. Thus, the claim language has readily understandable meaning to a person of skill in the art and defines the claimed subject matter with a reasonable degree of particularly and distinctness so as to apprise one of ordinary skill in the art as to the scope of the claim, and is therefore not indefinite. Reconsideration and withdrawal of the rejection are accordingly, respectfully requested.

The rejection of claims 1 and 4-11 under 35 U.S.C. § 103(a) over Doetsch, US 6,193,776 ("Doetsch") in view of GB 1,580,248 ("GB '248") and further in view of GB 1,575,792 ("GB '792") is respectfully traversed with respect to the amended claims.

The invention relates to a homogeneous, boron-doped alkaline earth peroxide produced by reacting an aqueous solution or suspension of an alkaline earth hydroxide with an aqueous solution of hydrogen peroxide in the presence of

an aqueous solution of a boron compound. Because the boron compound is present *in situ* during the synthesis, the boron is homogeneously distributed within the resulting peroxide at a molecular level. This outcome is inherent to the process of the invention.

None of the cited references discloses or suggests a homogeneous, boron-doped alkaline earth peroxide as claimed having the boron homogeneously distributed within the alkaline earth peroxide on a molecular level.

Doetsch discloses a mixed calcium-magnesium peroxide that may include an inorganic peroxygen stabilizer such as commercial phosphonic acids but, as acknowledged in the Final Action, is completely silent as to the incorporation of boron. The deficiencies of Doetsch are not remedied by either secondary reference.

GB '248 teaches a process for coating beet seed using a coating agent comprising calcium peroxide and other optional additives, which may include boron derivatives (page 1, lines 18-32 and page 2, lines 12-17). According to GB '248, the seeds are coating using an apparatus such as a granulator into which the seeds and the coating materials are fed (page 2, lines 27-30). The Final Action is incorrect, however, to conclude that the granulator would mix the ingredients to homogeneity in the manner required by the claims.

As previously pointed out, granulation is a process in which powder particles are made to adhere to form larger, multi-particle entities (see, e.g., the Summers' chapter entitled "Granulation," which was cited by the examiner). In contrast to the granulation process of GB '248, which merely mixes the seeds and coating materials at a macroscopic (powder particle) level, the claimed mixture of aqueous solutions results in a solid product having boron and the calcium/magnesium peroxides homogeneously dispersed in each other on a molecular level.

GB '792 relates to a process for stabilizing "preformed particles" of peroxygenated compounds (see, e.g., page 1, lines 9-14 and page 3, lines 100-101). Importantly, GB '792 teaches that percarbonate particles can be stabilized

by coating the particles with a solid coating agent containing at least one boric compound (see also page 1, lines 85-89, and page 2, lines 1-9 and 94-130).

Whether considered separately or in combination, these references do not disclose or suggest a boron-doped alkaline earth peroxide as claimed wherein the constituents are homogeneously distributed on a molecular level.

The rejection postulates that it would have been obvious to substitute boron for one of the stabilizers disclosed by Doetsch because GB '792 teaches that peroxygenated compounds can be stabilized by metaboric acid. This conclusion is incorrect for the following reasons.

As noted above, GB '792 relates to a coating technique for stabilizing peroxygenated compounds. According to the process of GB '792, particles of peroxygenated compounds are stabilized by forming an outer barrier or coating using "a solid coating agent" (see, e.g., page 1, lines 9-14 and 85-89, page 2, lines 1-32 and 94-130). One skilled in the art would recognize that GB '792 merely teaches that boric acid compounds are suitable stabilizers for peroxygenated compounds when used in a protective coating. Importantly, GB '792 does not teach or suggest that peroxygenated compounds could be stabilized by distributing boron homogeneously within the material.

It is well known in the art of peroxide and peroxide compounds that there are two fundamentally different techniques for stabilizing such materials. See the paragraph bridging pages 21 and 22 of the accompanying Exhibit A (Steiner, et al., Peroxides and Peroxide Compounds, Inorganic Peroxides) taken from the Kirk-Othmer Encyclopedia of Chemical Technology, J. Wiley & Sons, Inc., 2001.

The first technique is to improve the stability of the core of the percarbonate during the reaction (formation) process by the addition of stabilizers. As exemplary core stabilizers, the Kirk-Othmer Encyclopedia lists silicates, magnesium salts, phosphates and phosphonic acids. Notably, the use of boron to stabilize the core is not disclosed.

The second technique is to stabilize the product by a protective coating. Exemplary protective coating stabliizers include borates, perborates, sodium

silicate, sodium sulfate, magnesium salts, and various organic materials. GB'792 is merely an example of this second known approach.

Contrary to the assertion made in the Final Action, it would not have been obvious to modify the process of Doetsch to disperse boron within the peroxide for the purpose of stabilizing the peroxide. Because sodium metaborate is known to function as a stabilizer by forming a protective coating, it would not be obvious to disperse the sodium metaborate throughout the alkali metal peroxide because then it could no longer function as a protective coating. The homogeneous, molecular level incorporation of boron within the peroxide is fundamentally different from providing a boron-containing coating on the outside of peroxide particles. Absent some reason to expect that boron-containing stabilizer materials suitable for use as protective coatings according to the second known stabilizing method, could also be used as a dispersed core stabilizer according to the fundamentally different first stabilizing method, it would not have been obvious to disperse the boron throughout the alkaline earth metal peroxide because then it could no longer function as a barrier coating and its stabilization effect would be lost. Consequently, one of ordinary skill in the art, who would be aware of these two different known stabilization approaches, as well as the fact that different materials were known to be useful in each of the two stablization approaches, would not equate boron compounds known to be used only in the second (protective barrier coating) approach, with the different compounds used in the first (core stabilizer) approach, and would not attempt to substitute the boron compounds of GB '792 for the different stabilizer compounds dispersed in the cores of the Doetsch et al. A *prima facie* case of obviousness is thus not made out, and reconsideration and withdrawal of the obviousness rejection are respectfully requested.

In view of the foregoing, the application is respectfully submitted to be in condition for allowance, and prompt favorable action thereon is earnestly solicited.

If there are any questions regarding this amendment or the application in general, a telephone call to the undersigned at (202) 624-2845 would be appreciated since this should expedite the prosecution of the application for all concerned.

If necessary to effect a timely response, this paper should be considered as a petition for an Extension of Time sufficient to effect a timely response, and please charge any deficiency in fees or credit any overpayments to Deposit Account No. 05-1323 (Docket #101771.53046US).

Respectfully submitted,

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